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WHAT IS CLAIMED IS:

1. An exposure method in which a second object is exposed, via a projection system, with an exposure beam that has passed a pattern of a first object, said exposure method comprising:
5 dividing the space between said projection system and said second object into a first space on the side of said projection system and a second space on the side of said second object and providing, in the boundary portion between said first and second spaces, an aperture portion at a region through which at least
10 said exposure beam passes; and
supplying a first gas that transmits said exposure beam to said first space side, wherein said first gas' contamination degree of impurities that absorb said exposure beam is smaller than that of a second gas of said second space side.

15 2. An exposure method according to claim 1, wherein said first gas is blown in a single direction in said first space.

3. An exposure method according to claim 1, wherein said exposure beam is a vacuum ultraviolet light beam having a wavelength of 180 nm or less, and said first or second gas that
20 transmits said exposure beam is a rare gas or a nitrogen gas.

4. An exposure method in which a second object is exposed, via a projection system, with an exposure beam that has passed a pattern of a first object, said exposure method comprising:
disposing a stage holding said first object or said second
25 object and moving on a base member in a space supplied with a third gas that transmits said exposure beam;
floating said stage on said base member in a differential exhaust system by blowing a fourth gas and sucking said fourth

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gas; and

setting the permissible absorbancy limits of said fourth gas relative to said exposure beam higher than that of said third gas.

5. An exposure method according to claim 4, wherein said third gas and said fourth gas are different gases from each other.

6. An exposure method in which a second object is exposed, via a projection system, with an exposure beam that has passed a pattern of a first object, said exposure method comprising:

10 measuring the position of said first object or said second object relative to a predetermined reference member by illuminating a stage moving with said first object or said second object and said reference member with a measurement beam and a reference beam, respectively; and

15 making both of the optical paths of said measurement beam and said reference beam to be gaseous atmospheres each having about the same contamination degree of impurities that absorb said exposure beam.

7. An exposure method in which a second object is exposed, via a projection system, with an exposure beam that has passed a pattern of a first object, said exposure method comprising:
dividing the space between said projection system and said second object into a first space on the side of said projection system and a second space on the side of said second object and
25 providing, within the boundary portion between said first and second spaces, an aperture portion at a region through which at least said exposure beam passes;

blowing a gas that transmits said exposure light to said first

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spac ; and

xhausting, via said gas blown in said first spac , a substanc generated from said second object by the illumination thereof with said exposure beam from the optical path of said exposure beam.

8. An exposure method in which a second object is exposed, via a projection system, with an exposure beam that has passed a pattern of a first object, said exposure method comprising: dividing the space between said projection system and said second object into a first space on the side of said projection system and a second space on the side of said second object and providing, within the boundary portion between said first and second spaces, an aperture at a region through which a detection beam for detecting the position of said first object or said second object passes; and supplying a gas through which said exposure beam passes to said first space.

9. An exposure method in which a second object is exposed, via a projection system, with an exposure beam that has passed a pattern of a first object, said exposure method comprising: dividing the space between said projection system and said second object into a first space on the side of said projection system and a second space on the side of said second object; and setting the contamination degree of impurities of said first space smaller than that of said second space.

10. An exposure apparatus in which a second object is exposed, via a projection system, with an exposure beam that has passed

a pattern of a first object, said exposure apparatus comprising:
an aperture plate which is disposed between said projection system and said second object and on which an aperture for making said exposure beam pass through is formed;

5 a first gas supply mechanism that supplies a first gas that transmits said exposure beam to a first space between said aperture plate and said projection system; and
an environment control mechanism that controls the environment of a second gas which is supplied to a second space between said
10 aperture plate and said second object and transmits said exposure beam, wherein said environment control mechanism controls the contamination degree of impurities of said second gas so as to be different from that of said first gas.

11. An exposure apparatus according to claim 10,
15 wherein a chamber that substantially hermetically seals, except for said aperture of said aperture plate, said second space enclosing said second object is provided;
wherein said environment control mechanism has a second gas supply mechanism that supplies a second gas that transmits said
20 exposure beam into said chamber;
wherein said first gas supply mechanism supplies said first gas in a single direction in said first space; and
wherein the contamination degree of impurities that absorb
25 said exposure beam of said first gas is smaller than that of said second gas.

12. An exposure apparatus in which a second object is exposed, via a projection system, with an exposure beam that has passed a pattern of a first object, said exposure apparatus comprising:

a stag that holds said first object or said second object and
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a chamber that substantially hermetically seals a space enclosing said stage;

5 a gas supply device that supplies a third gas that transmits
said exposure beam into said chamber;

an air bearing device that float said stage on said base member in a differential exhaust system by blowing a fourth gas and sucking said fourth gas; and

10 a setting device that set the permissible absorbency limits
of said fourth gas relative to said exposure beam higher than
that of said third gas.

13. An exposure apparatus in which a second object is exposed, via a projection system, with an exposure beam that has passed

15 a pattern of a first object, said exposure apparatus comprising:
a stage that moves with said first object or said second object;
a reference member that is stationary relative to said
projection system;

an interferometer that measures the position of said first
object or said second object relative to said reference member
by illuminating said stage and said reference member with a
measurement beam and a reference beam, respectively; and

a gas supply device that supplies each of gases each having about the same contamination degree of impurities that absorb said exposure beam to each of the optical paths of said measurement beam and said reference beam.

14. An exposure apparatus in which a second object is exposed, via a projection system, with an exposure beam that has passed

a pattern of a first object, said exposure apparatus comprising:
an aperture plate which is disposed between said projection system and said second object and on which an aperture for making a detection beam for detecting the position of said first object

5 or said second object pass through is formed; and

a first gas supply mechanism that supplies a first gas that transmits said exposure beam to a first space between said aperture plate and said projection system.

15. A device manufacturing method which includes a process for
10 transferring a device pattern onto a workpiece, wherein said device pattern is transferred on said workpiece using an exposure method according to claim 1.

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